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TC 1700

In the Claims:

Claims 1-9, 11, 15-17, and 19, amend to read as follows:

1. (Amended) A solid oxide fuel cell operating at a temperature in the range of 400-700°C, comprising;

an anode including doped-ceria,

an electrolyte including doped-ceria, based and

a cathode including cobalt iron based materials, whereby the fuel cell operates in the temperature range of 400-700°C.

2. (Amended) the fuel cell of Claim 1, wherein said anode is composed of NiO and doped-ceria.

3. (Amended) The fuel cell of Claim 1, wherein said doped-ceria includes dopants selected from the group consisting of samarium oxide, gadolinium oxide, yttria oxide, and lanthanide oxide.

4. (Amended) The fuel cell of Claim 1, wherein said fuel cell includes pores created by a pore former.

5. (Amended) The fuel cell of Claim 4, wherein said pores are formed by a pore former selected from the group consisting of starch and carbon.

6. (Amended) The fuel cell of Claim 1, wherein said electrolyte comprises material selected from the group consisting of doped-ceria, doped-zirconia with a thin layer of doped-ceria, and doped-ceria and doped-zirconia.

7. (Amended) The fuel cell of Claim 1, wherein said electrode is selected from the group consisting of (La, Sr)(Co, Fe) O₃, and (La, Ca) (Co, Fe, Mn)O₃.

8. (Amended) The fuel cell of Claim 1, wherein said doped-ceria in said electrolyte is produced by colloidal spray deposited doped-ceria, or aerosol spray casting.

9. (Amended) The fuel cell of Claim 1, wherein said cobalt iron based material is deposited by colloidal spray deposition or aerosol spray casting.

Claim 10, cancel.

A2
11. (Amended) The fuel cell of Claim 1, wherein the cathode of the fuel cell comprises material composed of cobalt, iron, manganese based material formed by colloidal spray deposition.

15. (Amended) The fuel cell of Claim 12, wherein said fuel is hydrogen, and has a power output of up to 400mW/cm² at an operating temperature of 550°C.

A3
16. (Amended) The fuel cell of Claim 12, wherein said fuel is methane, and has a power output of 320mW/cm² at an operating temperature of 500°C.

17. (Amended) The fuel cell of Claim 12, wherein said anode comprises NiO and doped-ceria.

A4
19. (Amended) The fuel cell of Claim 18, wherein said electrode is selected from the group consisting of (La, Sr) (Co, Fe)O₃ and (La, Ca) (Co, Fe, Mn) O₃.